

Fanglei reported her progress on the spin tracking with various vertical tunes and cold snake strengths crossing intrinsic resonance $36+\nu$. She studied the polarization as function of vertical tunes to a broader range. As expected, the polarization variation reflected the snake resonance locations. Although it is fair to do the comparison with a fixed random seed to generate the Gaussian distribution, Waldo asked if any other seeds have been used to check the variation of final polarization. Fanglei commented that she had tried other seeds before, which resulted in different output emittances. Alfredo has generated new field map for 2.25T cold snake. Fanglei also started the tracking with 2.25T cold snake for vertical emittance, as compared with 2.5T and 2.1T cold snakes. This is the first step to find the optimized cold snake strength. The idea is to check polarization losses due to vertical resonances (by spin tracking) and horizontal resonances (by simple model) for various cold snake strength. The results show that the difference among the three cold snake strengths are not big, which probably implies that the effect will be dominated by the effect from horizontal resonances. Ernest suggested we use magnet field instead of snake strength to label various snake configuration since the snake strength varies with energy. For all these tracking, the spin was matched at the starting point, so it is along the stable spin direction. The polarization quoted in the presentation is the vertical component only.

As linac is going to start on BLIP operation in next a few days, Kevin asked if we should start the LtB emittance study before the actual polarized proton run starts. This requires linac to be in 200MeV mode (higher than BLIP only mode). The idea is to inject small emittance proton beam (using slits to cut intensity and emittance) into the Booster and measure emittance with flags and multiwires in the BtA line. Thomas commented that since none of these study will change the modification of LEBT upgrade next summer and there is no significant benefit (emittance reduction) to the coming run, he would like to defer the study during the coming pp setup. In the worst case that there is no pp run due to the budget short fall, then we should discuss this again. Meanwhile, we should estimate how much time is actually needed. The instrumentation setup (such as F3 kicker, BtA flags, multiwires) can be done with deuteron beam now. Woody suggested to take additional injection ORM data with both a bare AGS lattice in the worst case. Woody also reported that the survey of the spare AGS dipole magnets have been started.

The last topic discussed in the meeting was the AGS model. Kevin got different results for α, β distortion near integer tunes with MADX and MAD8, where the distortion using MADX is more significant. The MADX needs to use the opticalc code developed by Nikolai, which treated the quadrupole and sextupole fields in the combined function dipoles as error field (not clear if it is distributed or not). Kevin is trying to build a new AGS model based on MADX. Dejan pointed out that there should be no difference between MAD8 and MADX after Schimmit fixed $\Delta p/p$ error in MAD8. Kevin actually tested with a simple lattice including sbend and rbend which confirmed that there is no difference between MAD8 and MADX. The problem is limited to combined function dipoles. Mei also echoed that the test of close to integer tune at RHIC injection shows good agreement between online model (opticalc) and experimental data. Again, there is no combined function dipole in RHIC.

Haixin